STATE OF MARYLAND

DHMH

Maryland Department of Health and Mental Hygiene
201 W. Preston Street, Baltimore, Maryland 21201

Martin O'Malley, Governor – Anthony G. Brown, Lt. Governor – John M. Colmers, Secretary

Office of Preparedness & Response
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December 30, 2009

Public Health & Emergency Preparedness Bulletin: # 2009:51
Reporting for the week ending 12/26/09 (MMWR Week #51)

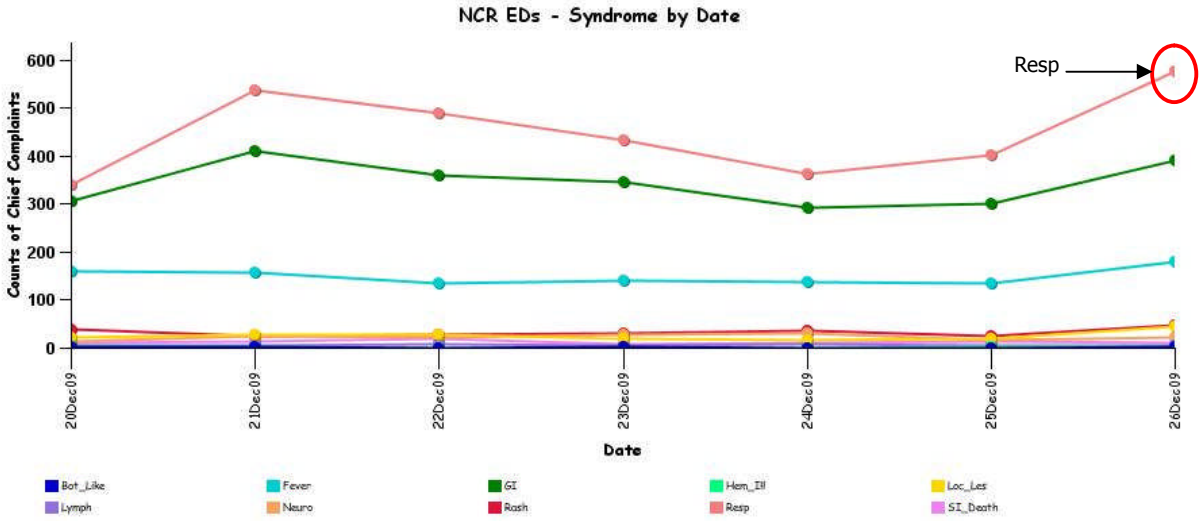
CURRENT HOMELAND SECURITY THREAT LEVELS

National: **Yellow (ELEVATED) *The threat level in the airline sector is Orange (HIGH)**
Maryland: **Yellow (ELEVATED)**

SYNDROMIC SURVEILLANCE REPORTS

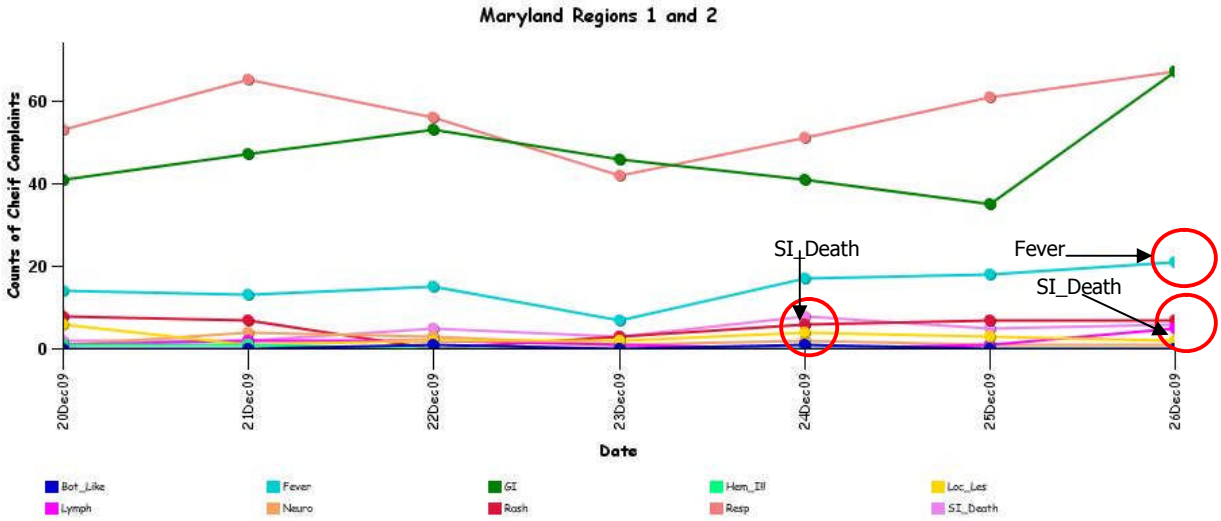
ESSENCE (Electronic Surveillance System for the Early Notification of Community-based Epidemics):
Graphical representation is provided for all syndromes, excluding the "Other" category, all age groups, and red alerts are circled.
Note: ESSENCE – ANCR Spring 2006 (v 1.3) now uses syndrome categories consistent with CDC definitions.

Overall, no suspicious patterns of illness were identified. Track backs to the health care facilities yielded no suspicious patterns of illness.

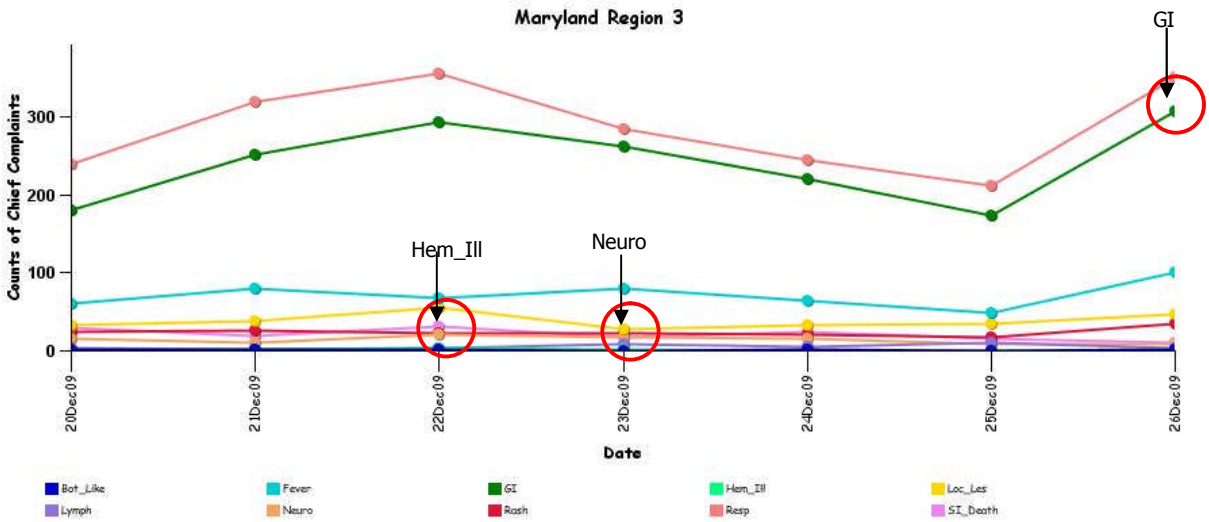


* Includes EDs in all jurisdictions in the NCR (MD, VA, and DC) reporting to ESSENCE

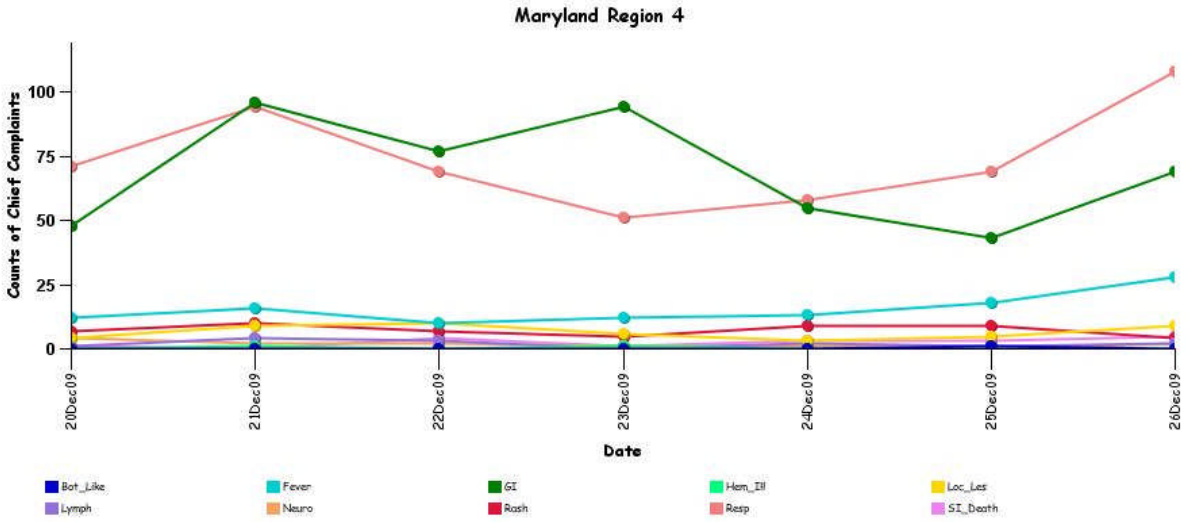
MARYLAND ESSENCE:



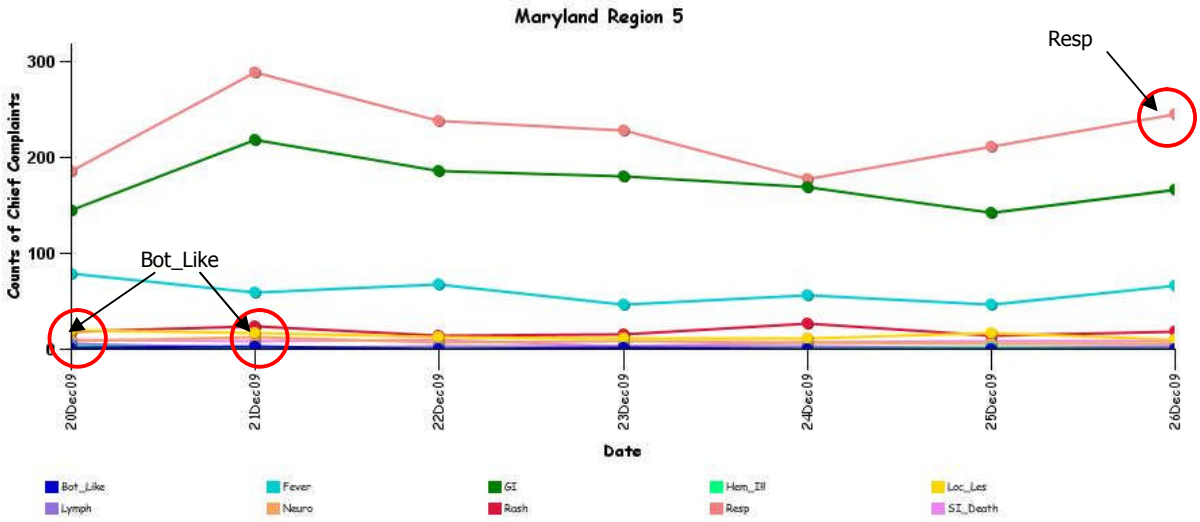
* Region 1 and 2 includes EDs in Allegany, Frederick, Garrett, and Washington counties reporting to ESSENCE



* Region 3 includes EDs in Anne Arundel, Baltimore city, Baltimore, Carroll, Harford, and Howard counties reporting to ESSENCE

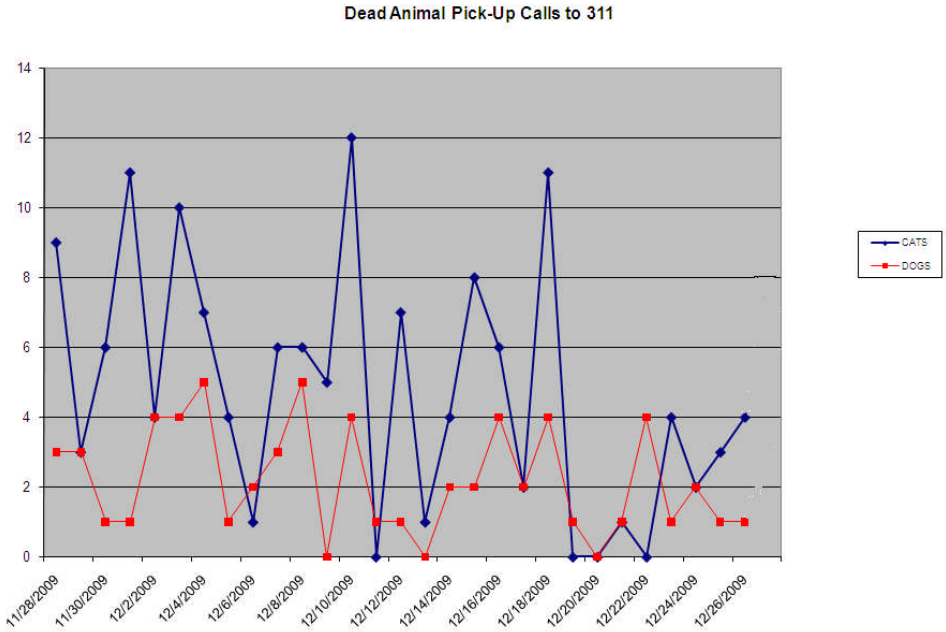


* Region 4 includes EDs in Cecil, Dorchester, Kent, Somerset, Talbot, Wicomico, and Worcester counties reporting to ESSENCE



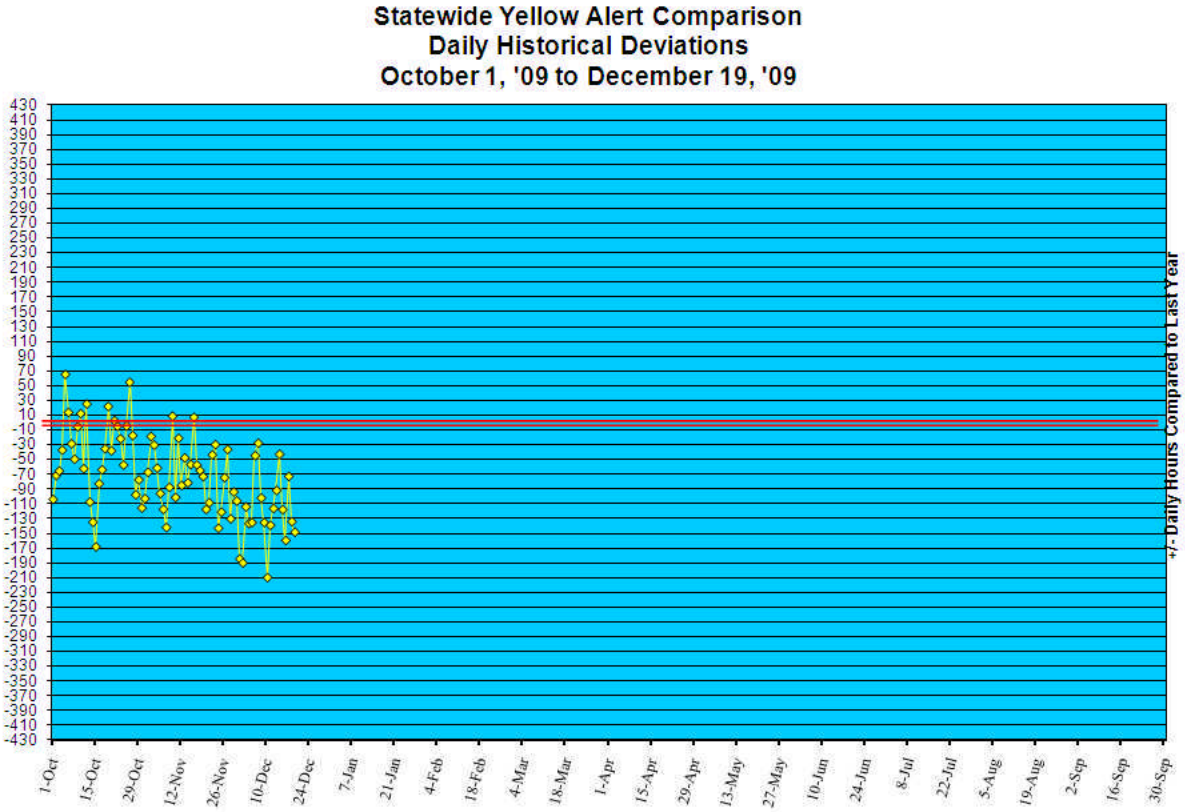
* Region 5 includes EDs in Calvert, Charles, Montgomery, Prince George's, and St. Mary's counties reporting to ESSENCE

BALTIMORE CITY SYNDROMIC SURVEILLANCE PROJECT: No suspicious patterns in the medic calls, ED Syndromic Surveillance and the animal carcass surveillance. Graphical representation is provided for animal carcass surveillance 311 data.



REVIEW OF EMERGENCY DEPARTMENT UTILIZATION

YELLOW ALERT TIMES (ED DIVERSION): The reporting period begins 10/01/09.



REVIEW OF MORTALITY REPORTS

Office of the Chief Medical Examiner: OCME reports no suspicious deaths related to an emerging public health threat for the week.

MARYLAND TOXIDROMIC SURVEILLANCE

Poison Control Surveillance Monthly Update: Investigations of the outliers and alerts observed by the Maryland Poison Center and National Capital Poison Center in November 2009 did not identify any cases of possible public health threats.

REVIEW OF MARYLAND DISEASE SURVEILLANCE FINDINGS

COMMUNICABLE DISEASE SURVEILLANCE CASE REPORTS (confirmed, probable and suspect):

Meningitis:	**Aseptic**	**Meningococcal**
New cases (Dec 20- Dec 26, 2009):	08	0
Prior week (Dec 13- Dec 19, 2009):	08	0
Week#51, 2008 (Dec 14– Dec 20, 2008):	06	0

OUTBREAKS: 1 outbreak was reported to DHMH during MMWR Week 51 (December 20- 26, 2009):

1 Respiratory illness outbreak

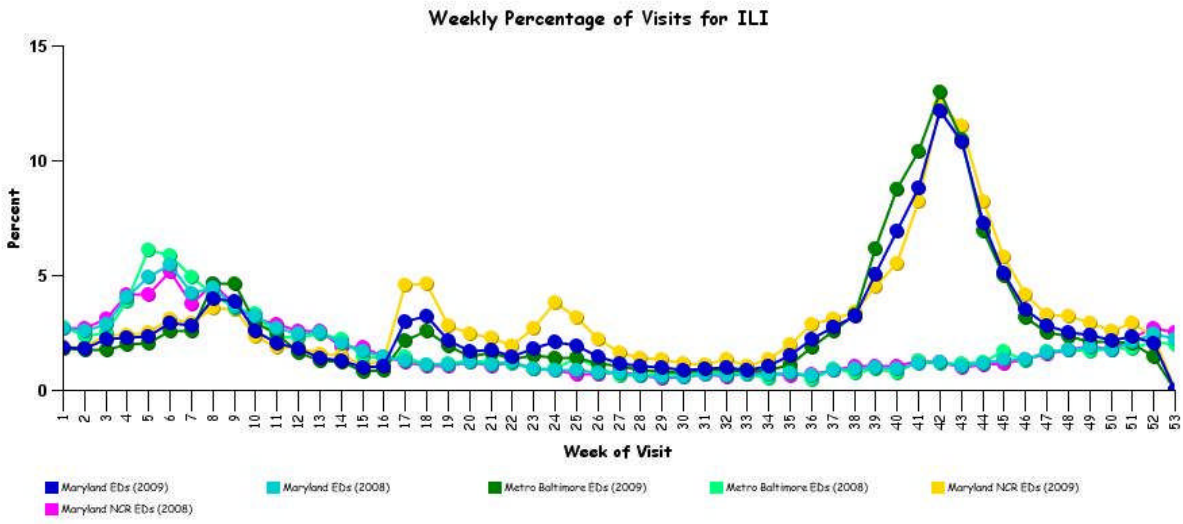
1 outbreak of PNEUMONIA at a Nursing Home

MARYLAND INFLUENZA STATUS: Influenza activity in Maryland for Week 50, last week, is LOCAL.

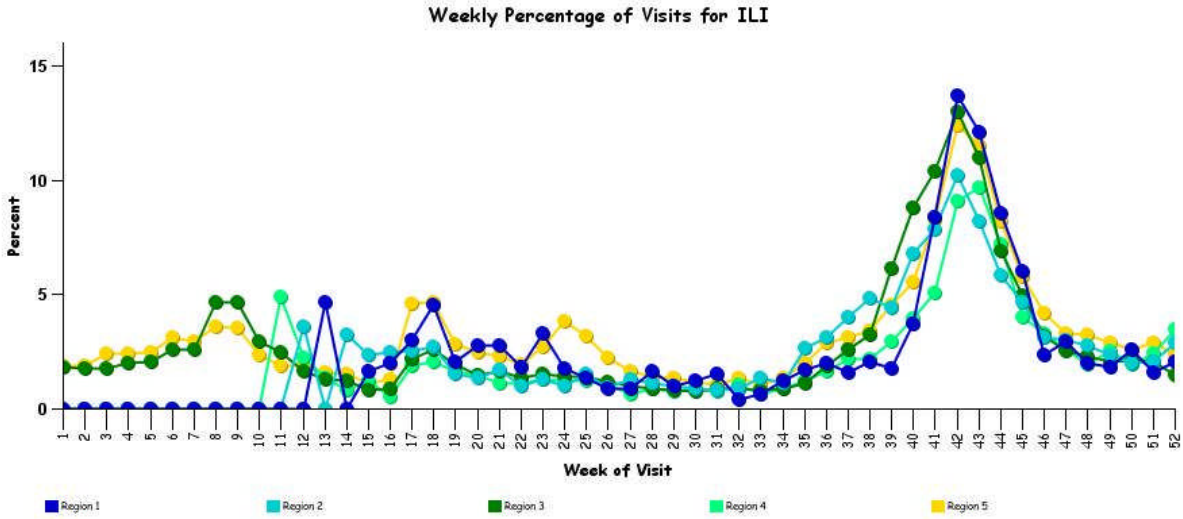
SYNDROMIC SURVEILLANCE FOR INFLUENZA-LIKE ILLNESS

Graphs show the percentage of total weekly Emergency Department patient chief complaints that have one or more ICD9 codes representing provider diagnoses of influenza-like illness. These graphs do not represent confirmed influenza.

Graphs show proportion of total weekly cases seen in a particular syndrome/subsyndrome over the total number of cases seen. Weeks run Sunday through Saturday and the last week shown may be artificially high or low depending on how much data is available for the
week.



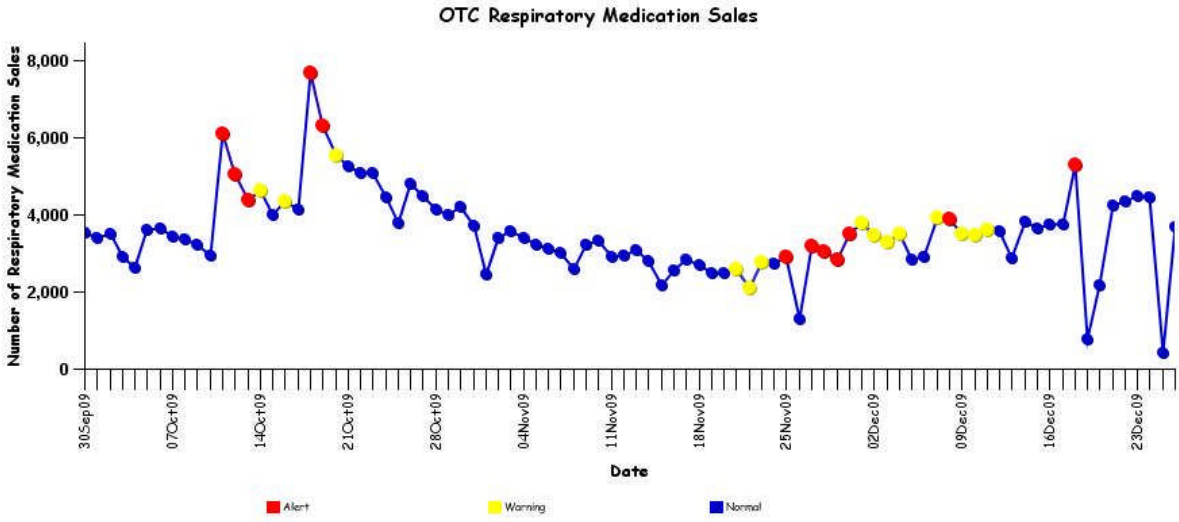
* Includes 2008 and 2009 Maryland ED visits for ILI in Metro Baltimore (Region 3), Maryland NCR (Region 5), and Maryland Total



*Includes 2009 Maryland ED visits for ILI in Region 1, 2, 3, 4, and 5
2009 data for these regions are depicted separately to establish baselines, due to the addition of new hospitals in these regions.

OVER-THE-COUNTER (OTC) SALES FOR RESPIRATORY MEDICATIONS:

Graph shows the daily number of over-the-counter respiratory medication sales in Maryland at a large pharmacy chain.



PANDEMIC INFLUENZA UPDATE:

WHO Pandemic Influenza Phase: Phase 6: Characterized by community level outbreaks in at least one other country in a different WHO region in addition to the criteria defined in Phase 5. Designation of this phase will indicate that a global pandemic is under way. Definition of Phase 5 is characterized by human-to-human spread of the virus into at least two countries in one WHO region. While most countries will not be affected at this stage, the declaration of Phase 5 is a strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short.

US Pandemic Influenza Stage: Stage 0: New domestic animal outbreak in at-risk country

**More information regarding WHO Pandemic Influenza Phase and US Pandemic Influenza Stage can be found at: http://preparedness.dhmh.maryland.gov/Docs/PandemicInfluenza/PandemicInfluenzaResponseAnnex(Version7.2).pdf

AVIAN INFLUENZA-RELATED REPORTS:

WHO update: As of December 18, 2009, the WHO-confirmed global total of human cases of H5N1 avian influenza virus infection stands at 446, of which 263 have been fatal. Thus, the case fatality rate for human H5N1 is about 59%.

AVIAN INFLUENZA, HUMAN, H9N2 (CHINA): 24 Dec 2009,The Centre for Health Protection (CHP) of the Department of Health is investigating a case of influenza A (H9N2) infection -- a mild form of avian influenza -- involving a 35-month-old girl. A spokesman for CHP said today [23 Dec 2009] that the girl, living in Sha Tin, developed symptoms of cough, fever, and runny nose in late November 2009. She was admitted to the Prince of Wales Hospital and was discharged on 11 Dec 2009. She has now recovered. Influenza A (H9N2) was detected in the patient's respiratory specimen. Investigation is ongoing, and the department will inform the World Health Organization. Influenza A (H9) is an avian influenza virus which has been isolated from ducks and chickens for many years. Infection in humans is rare and appears to present as a mild disease. This is the 7th time that H9 viruses were found in humans in Hong Kong. Five females and a male were confirmed to have suffered from H9 infection in 1999, 2003, 2007, 2008 and 2009. "Hong Kong has a comprehensive avian influenza surveillance programme to detect the presence of any avian influenza in our environment, and the possible reassortment of the viruses, so that prompt responsive measures can be taken," the spokesman said. As a precautionary measure, people are reminded to avoid contact with live poultry to minimise the chance of being infected with avian influenza. "Hands should be washed thoroughly with soap and water after handling live poultry. To build up good body resistance against influenza, the public are encouraged to maintain a balanced diet, do regular exercise, and have adequate rest. They should not smoke." he said.

AVIAN INFLUENZA, HUMAN, NINETIETH CASE (EGYPT): 21 Dec 2009, The Ministry of Health of Egypt has reported a new laboratory confirmed human case of avian influenza A(H5N1) on Sat 19 Dec 2009. The case is a 21-year-old female from the El Tanta District of Gharbia Governorate. She developed symptoms of fever and cough on Tue 15 Dec 2009. She was admitted to Tanta Fever Hospital where she received oseltamivir treatment on the same day. She is in a stable condition. Investigation revealed that the case had close contact with dead poultry and was involved in slaughtering sick birds. The case was confirmed by the Egyptian Central Public Health Laboratories, a National Influenza Center of the WHO Global Influenza Surveillance Network (GISN). Of the 90 laboratory confirmed cases of avian influenza A(H5N1) reported in Egypt, 27 have been fatal.

H1N1 INFLUENZA (Swine Flu):

INFLUENZA PANDEMIC (H1N1) 2009, AUTOPSIES (BRAZIL): 23 Dec 2009, Brazilian researchers have performed the 1st-ever autopsy study to examine the precise causes of death in victims of pandemic influenza (H1N1) 2009 virus infection. "The lack of information on the pathophysiology of this novel disease is a limitation that prevents better clinical management and hinders the development of a therapeutic strategy," said lead author, Thais Mauad, MD, PhD, associate professor of the Department of Pathology at Sao Paulo University, in Brazil. The results of their study will be published in the 1 Jan 2010 issue of the American Thoracic Society's American Journal of Respiratory and Critical Care Medicine. The researchers examined 21 patients who had died in Sao Paulo with confirmed pandemic (H1N1) 2009 virus infection in July and August 2009. Most were between the ages of 30 and 59. They found that three-quarters (76 percent) of the patients had underlying medical conditions such as heart disease or cancer, but there was no clear complicating medical condition in the remaining quarter. All presented a progressive and rapidly fatal form of the disease. While previous data have shown that most patients with a non-fatal infection have fever, cough and achiness (myalgia), Dr Mauad noted that "most patients with a fatal form of the disease presented with difficulty breathing (dyspnea), with fever and myalgia being less frequently present." All patients died of severe acute lung injury, but there were 3 distinct patterns of the damage to their lungs, indicating that the infection killed in distinct ways. "All patients have a picture of acute lung injury," said Dr Mauad. "In some patients this is the predominant pattern; in others, acute lung injury is associated with necrotising bronchiolitis (NB); and in others there is a haemorrhagic pattern." "Patients with NB are more likely to have a bacterial co-infection. Patients with heart disease and cancer are more likely to have a haemorrhagic condition in their lungs. It is important to bear in mind that patients with underlying medical conditions must be adequately monitored, since they are at greater risk of developing a severe

H1N1 infection," said Dr Mauad. In these patients, H1N1 infection may present as a potential fatal disease, requiring early and prompt intensive care management, including protective ventilation strategies and adequate haemodynamic management. "We found that 38 percent of these patients had a bacterial infection (bronchopneumonia). This has important consequences because these patients need to receive antibiotic therapy, in addition to antiviral therapy." The researchers also found evidence of an influenza-associated 'cytokine storm,' an aberrant immune response in the lungs of certain individuals, which was almost certainly involved in the pathogenesis in these fatal cases of the H1N1 infection. "[This] suggests that an overly vigourous host inflammatory response triggered by the viral infection may spill over to and damage lung tissue, thereby causing acute lung injury and fatal respiratory failure," noted John Heffner, MD, past president of the ATS [American Thoracic Society]. Further research is needed to understand precisely how and why certain patients succumb to a fatal progression when infected with the pandemic (H1N1) 2009 virus. While most patients experience a mild illness with no lasting effects, this research lays important groundwork for future efforts by defining the histological patterns associated with a fatal infection. "We would like to deepen our efforts into the understanding of the immune responses in cases of severe infection," said Dr Mauad. "This could ultimately lead to new therapeutic approaches."

INFLUENZA PANDEMIC (H1N1) 2009, ANIMAL (USA: NEW YORK): 22 Dec 2009, On 21 Dec 2009, IDEXX Laboratories confirmed 2009 H1N1 influenza virus in a dog in Bedford Hills, New York. A 13-year-old dog became ill after its owner was ill with confirmed 2009 H1N1 influenza. The dog was lethargic, coughing, not eating, and had a fever. Radiographs (x-rays) showed evidence of pneumonia. The dog was treated with intravenous fluids, antibiotics, nebulization, and other supportive care, and was discharged from the hospital after 48 hours of care. It is currently recovering. Tests submitted to IDEXX Laboratories were negative for canine influenza (H3N8) but positive for 2009 H1N1 influenza. The results were confirmed by the Iowa State laboratory.

Resources:

http://www.cdc.gov/h1n1flu/

http://www.dhmh.maryland.gov/swineflu/

NATIONAL DISEASE REPORTS

No new disease outbreaks related to CDC Critical Biological Agents were reported for MWWR week 51.

INTERNATIONAL DISEASE REPORTS

Q FEVER, LABORATORY-ACQUIRED (AUSTRALIA): 25 Dec 2009, Two SA Pathology employees have contracted Q fever following a breach in laboratory protocol involving the bacterium. A 33-year-old man was diagnosed with the illness on Monday [14 Dec 2009], and has since recovered fully with treatment. A 31 [year-old] woman was diagnosed on Thursday [17 Dec 2009] and is in a satisfactory condition. SA Health's Chief Medical Officer, Professor Paddy Phillips, said Q fever is caught from infected animals, person-to-person spread was extremely unlikely, and the risk to the public is low. "Approximately half of all people infected do not develop symptoms and, in the majority of others, illness is mild. Hospitalization and serious complications are rare," Professor Phillips said. "Infection usually occurs through inhalation of bacteria from animals and animal secretions or products, and the incubation period is usually between 2 and 4 weeks. The breach of laboratory protocols occurred 5 weeks ago and has been thoroughly investigated. The breach involved a live specimen being transported incorrectly in SA Pathology's laboratory on Frome Road [in Adelaide]." "At this stage, SA Pathology cannot confirm a definitive link between the breach in protocol and the positive test results recorded by our employees this week. SA Pathology is also offering screening to any employee who may require it." Q Fever is an infection caused by _Coxiella burnetii_, which is almost always related to direct or indirect contact with infected animals. Most people who contract Q fever recover fully with or without treatment. However some people may develop a chronic illness lasting months. Acute and chronic Q fever can be treated with antimicrobial agents. SA Health has consulted with the Public Services Association, who will provide additional advice and support to SA Pathology employees. (Q Fever is listed in Category B on the CDC list of Critical Biological Agents) *Non-suspect case

Q FEVER (NETHERLANDS): 25 Dec 2009, 2548 goats have been destroyed so far in the combat against Q fever; this was reported by the spokesperson of the Ministry of Agriculture. During each of the last 3 days, 3 holdings were emptied, totaling 9 farms, mainly in the south and southeast of the country. Today [Thu 24 Dec 2009], the work was discontinued, to be restarted Monday [28 Dec 2009], again handling 3 farms per day, pausing during the New Year's days. According to the spokesman, there are no details to report. "It went well, but it was sad." It is not so that fewer animals need to be killed in the infected premises. Minister Gerda Verburg (Agriculture) received a negative opinion of the Central Veterinary Institute (CVI) upon her query of whether repeated testing of individual animals on infected farms could enable a distinction between infected and non-infected animals in order to spare the latter. The CVI said that such testing will not provide a complete assurance of the animals' freedom of infection; on top of that, such testing is not performable, since the lambing is soon to start. Consequently, the announced measures remain in force, as Verburg informed the House. On the Ministry's website, Verburg reported how depressing it was that healthy, pregnant animals should be killed. "It cuts deep into my soul." According to her, such an event had never happened in Dutch history.

However, according to the Minister, the culling of all prgnant animals on infected farms is currently the only way to drastically decrease the spread of the Q fever bacteria in 2010. The culling of the 61 infected farms began Monday [21 Dec 2009] in Vinkel, Tilburg and Horssen, because the animals there were soon to start lambing. "I hope very much that not many more new infected farms are to be found and that the number of Q-fever patients in 2010 will be limited. We need to see the light at the end of the tunnel, and the industry needs a sustainable and healthy future prospect," said Verburg. (Q Fever is listed in Category B on the CDC list of Critical Biological Agents) *Non-suspect case

ANTHRAX, HUMAN (UNITED KINGDOM): 24 Dec 2009, Tests from a 4th patient have now confirmed the presence of Anthrax. Two of these 4 known confirmed cases have now died. A further heroin drug injector has died, but tests to determine the presence of anthrax have yet to be completed [Since this release was issued, this 5th case has been confirmed. The 2 surviving confirmed anthrax-linked patients are responding well to treatment, one at Glasgow's Victoria Infirmary and one at Monklands District General Hospital in Lanarkshire. NHS Greater Glasgow and Clyde's Public Health Protection Unit are continuing to work closely with NHS Lanarkshire, the Procurator Fiscal's Office, and Strathclyde Police to identify the source of the anthrax. One avenue which is still being investigated by Public Health and Strathclyde Police is that contaminated heroin or a contaminated cutting agent mixed with the heroin may be responsible for the infections. Dr Syed Ahmed, Consultant in Public Health Medicine, said: "There have been no new drug injecting heroin users with suspected or confirmed infections admitted to hospitals in the west of Scotland since the weekend. I urge all drug injecting heroin users to be extremely alert and to seek urgent medical advice if they experienced an infection. Drug injecting is extremely risky and dangerous. The possible presence of a batch of heroin contaminated with anthrax makes drug injecting even riskier and even more dangerous. While these sections of the community need to be on their guard, the risk to the rest of the population -- including close family members of the infected cases -- is negligible. It is extremely rare for anthrax to be spread from person to person, and there is no significant risk of airborne transmission from one person to another." As part of ongoing inquiries, any drug-injecting heroin users who present with serious soft tissue infections now or who have presented such during the last 4 weeks are being investigated. (Anthrax is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

ANTHRAX, HUMAN, LIVESTOCK (KENYA): 24 Dec 2009, A person has died and several others have been admitted to hospital over what is suspected to be anthrax in Trans Mara District. There was congestion at the district hospital as more than 40 people reported to have eaten the infected meat were brought in for treatment. An ambulance from the hospital and taxis had a difficult time accessing the remote area where the incident occurred. With no other means of transport for the victims, the ambulance made several trips to the area. District public health officer Anthony Mwanthi said a person had died, 3 had been admitted to hospital, while 39 others with mild symptoms were treated and discharged. Mr Mwanthi said the affected area was prone to anthrax outbreaks, noting that in October 2009, one person died and 33 others were admitted to hospital after eating the carcass of an infected animal. The health officer said that despite efforts to curb anthrax outbreaks, the residents were still ignoring the dangers of eating un-inspected meat. He cautioned the residents against relying on herbs, which they believe to have the power to sterilise meat, and instead engage the services of the public health officers to inspect the meat. "It's time the locals changed their attitudes towards some cultural beliefs, especially those which expose them to dangers," he said. However, according to one of the residents, Mr Peter Sankale, it was hard for many locals to dispose of carcasses by burning or burying them, as this is a cultural taboo. There are fears that more infections might occur as hundreds of animals continue to be slaughtered for the end of year festivities without being inspected. (Anthrax is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

JAPANESE ENCEPHALITIS (INDIA): 23 Dec 2009, With the death of one more person due to encephalitis in Uttar Pradesh today [22 Dec 2009], the statewide toll due to the disease rose to 567, officials said. The patient died at BRD Medical College Hospital [in Gorakhpur], they said. As many as 52 encephalitis patients are undergoing treatment at BRD hospital, while 2 are being treated at other government hospitals of the region, they said. "However, the cases of Japanese encephalitis, caused due to mosquito bites, have substantially dropped due to fall in temperature resulting in low mosquito density," additional director of health LP Rawat said. (Viral Encephalitis is listed in Category B on the CDC list of Critical Biological Agents) *Non-suspect case

OTHER RESOURCES AND ARTICLES OF INTEREST

More information concerning Public Health and Emergency Preparedness can be found at the Office of Preparedness and Response website: http://preparedness.dhmh.maryland.gov/

Maryland's Resident Influenza Tracking System: www.tinyurl.com/flu-enroll

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NOTE: This weekly review is a compilation of data from various surveillance systems, interpreted with a focus on a potential BT event. It is not meant to be inclusive of all epidemiology data available, nor is it meant to imply that every activity reported is a definitive BT event. International reports of outbreaks due to organisms on the CDC Critical Biological Agent list will also be reported. While not "secure", please handle this information in a professional manner. Please feel free to distribute within your organization, as you feel appropriate, to other professional staff involved in emergency preparedness and infection control.

For questions about the content of this review or if you have received this and do not wish to receive these weekly notices, please e-mail me. If you have information that is pertinent to this notification process, please send it to me to be included in the routine report.

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